cable and satellite communications [are available], which can utilize off-the-shelf equipment to provide these services."[52]

Reliance upon these alternatives is unjustified. These media do not provide fixed microwave users adequate reliability of or control over system performance.

If use of other facilities were viable, such facilities would have been leased from common carriers long ago. In fact, existing private users have their own microwave networks because they have a need for reliable, dependable communication. For utilities, public service companies, cellular telephone licensees and police departments, accumulated outage time of no more than a few minutes a year is tolerable. Such reliability only is practical over networks controlled by the user.

Fiber optic communication is impractical for two reasons. First, the systems are not reliable for critical users. When a fiber is cut, typical repair time is 8 to 12 hours. This is unacceptable. Many network topologies do not lend themselves to alternate routing as a means of avoiding this problem. Second, networks are not cost competitive. As OET notes, most 2 GHz paths are 17.3 miles long.[53] Average fiber system costs are $40,000 per mile.[54] Therefore, typical path replacement cost would be about $700,000. A typical microwave path costs $300,000.[55] The arithmetic speaks for itself.

Satellite systems likewise are unusable. First, transmission bandwidth is not readily available. Most domestic satellites currently are used for video transmission. INTELSAT

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[52] NPRM, 7 FCC Rcd at 1544.

[53] OET Study, Section 4.3.2.

[54] OET Study, Section 5.0.

[55] OET Study, Section 5.0.

is the only major supplier of telephony bandwidth and the number of its terminals is limited in the United States. Second, satellite bandwidth is prohibitively expensive. A typical 10 MHz circuit is $50,000 per month.[56] For a single microwave path, that would be $600,000 a year (if the circuit were available in the first place). Again, the economics are highly unfavorable.

Of the three alternative media proposed by OET, cable is the least practical. Except for intra-building cabling and outside plant subscriber loops, this medium has been abandoned by virtually all telecommunications users. The reasons are obvious. Cable suffers all the cost disadvantages of fiber, except for the splicing and transmission electronics. The medium itself has inherently low capacity. This is a poor third choice to replace long distance microwave paths.

Clearly the use of alternate media is uneconomical at best and unacceptable or unavailable at worst. Thus, OET's assumption, that displaced 2 GHz microwave users could be accommodated by alternative media, is overly optimistic and should not be used to justify the proposed reallocation.[57]

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[56] OET Study, note 42.

[57] The Commission appears so assured that availability of alternative media will facilitate the 2 GHz user migration that it proposes awarding a tax certificate "to fixed microwave licensees who receive financial compensation from an entity seeking to use the spectrum for new technology as part of an agreement to surrender their license and use other, non-radio alternative media." NPRM, 7 FCC Rcd at 1545 n.17. ANS supports implementation of all reasonable incentives to economize use of the radio spectrum. Its proposed channelization scheme is grounded upon such incentives. Thus, ANS recommends that the Commission fully explore the tax certificate proposal.

IV. ANS PROPOSES A VIABLE SOLUTION FOR DISPLACED FIXED MICROWAVE USERS

A. PROMPT ADOPTION OF A RULEMAKING PROPOSING SPECIFIC RULES FOR FIXED MICROWAVE USERS OPERATING ABOVE 3 GHZ IS NECESSARY

In proposing a major "band clearing" at 2 GHz to move fixed microwave users, the Commission, in the NPRM, does not drop the other shoe. Specific rules for displaced fixed microwave users are not proposed. Instead, the Commission merely indicates its intention, at some unknown date and under some unknown regulatory framework, to make available fixed microwave bands above 3 GHz for the homeless 2 GHz users.

ANS supports allocating spectrum for emerging PCS and other technologies. However, ANS opposes how the Commission is proceeding with this reallocation. Displaced fixed users deserve better treatment, require more certainty, and need the opportunity to evaluate, before the reallocation decision is made, rules governing their services in the bands above 3 GHz. The Commission's prompt placement of the ANS Petition on Public Notice ameliorates the problem regarding rules for potentially displaced 2 GHz users significantly. However, unless the Commission defers action on the NPRM until it develops a complete record on the ANS Petition, this problem will not be solved.

B. ANS' PETITION PROPOSES NECESSARY SPECIFIC RULES FOR FIXED MICROWAVE USER OPERATION ON BANDS ABOVE 3 GHZ

Based upon its substantial experience in developing, manufacturing and installing microwave equipment, ANS has devoted considerable resources to solving the problem of what to do with the potentially displaced microwave users. Its proposal, as set forth in the

ANS Petition, accomplishes what the Commission should have done in the NPRM and jump starts the process towards answering this dilemma.

1. ANS' proposed rules will facilitate migration of 2 GHz fixed microwave users to bands above 3 GHz.

If adopted, ANS' proposed rules will facilitate a graceful transition by fixed microwave users from the 2 GHz band to the bands above 3 GHz. ANS' proposal is distinguished by its spectral efficiency, its sensitivity to the displaced microwave users' needs and operations, and its expansion of the spectrum available for both common carrier and private op-fixed microwave users. Specifically, in its Petition, ANS proposes:[58]

1. Reallocation of the 3.6-3.7 GHz band, currently allocated on a shared basis to government use (aeronautical radionavigation and radiolocation on a primary basis) and to non-government use (fixed satellite downlink on a primary basis and radiolocation on a secondary basis), so that fixed point-to-point non-government service could be provided by private-op fixed and common carriers on a co-primary basis.

2. Reallocation of the point-to-multipoint section of the 10.55 to 10.68 GHz band to permit point-to-point applications by both private-op fixed and common carriers on a co-primary basis.

3. Reallocation of the following bands to permit use by both private op-fixed and common carriers on a co-primary basis:

- 4 GHz (3.7-4.2 GHz).
- Lower 6 GHz (5.925-6.425 GHz).
- Upper 6 GHz (6.525-6.875 GHz).

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[58] For a complete description of ANS' proposed rule changes, see ANS Petition, Attachment 1.

- 11 GHz (10.7-11.7 GHz).

4. Specific rule changes to Parts 2, 21, 25 and 94, which would:

- effectuate such proposed reallocations;
- define eligibility;
- prescribe band channelization, minimum path lengths, minimum channel loading, and minimum capacity for bandwidth used;
- establish frequency coordination criteria; and
- establish antenna standards.

2. ANS' proposed rules meet the needs of 2 GHz users.

The Commission is out of touch with the marketplace. Proposing a "blanket" waiver and relying upon existing frequency coordination and path length requirements are unacceptable. This naive approach ignores how common carrier and private op-fixed microwave users operate and ignores what standards must be adopted to ensure their continued successful operation. In its Petition, ANS fixes these flaws by proposing spectrally efficient bandwidths, co-primary use of the bands above 3 GHz to yield more available spectrum, and amendment of specific rules to accommodate the reallocation.

The bands above 3 GHz primarily are channelized for high-capacity systems. However, the 2 GHz bands are populated mostly by low and medium capacity systems. Provision must be made in the bands above 3 GHz for the displaced low and medium capacity systems without wasting spectrum. ANS proposes such channelization.

ANS' proposal is specifically efficient. It subdivides existing channels according to need. For the first time, fixed point-to-point microwave bands are channelized to be congruent with the user's actual and anticipated requirements. Artificial criteria, such as the current standard, which is whether the user is a common or private op-fixed carrier, are

abandoned. Capacity and propagation needs for microwave users are essential to ANS' proposal. Certainty and flexibility are maximized.

By proposing across-the-board sharing of the 3.6 to 3.7, 4, lower 6, upper 6, 10 and 11 GHz bands by common carrier and by private op-fixed microwave users on a co-primary-basis, both classes of users will have access to more spectrum than they have now. Common carriers would have access to an additional 350 MHz in the upper 6 GHz band and 100 MHz each in the 3.6 to 3.7 and the 10 GHz bands. Moreover, common carrier access to the 4 GHz and lower 6 GHz bands would be re-enfranchised because of ANS' eligibility and channelization proposals. Private op-fixed carriers would have access to an additional 2120 MHz of spectrum.[59]

In direct contrast to the Commission's treatment, in the NPRM, of potentially displaced 2 GHz microwave users, ANS, in its Petition, fashions a comprehensive and specific menu of necessary rule changes. These changes include reallocation of the 3.6 to 3.7, 4, lower and upper 6, 10, and 11 GHz bands under Part 2, frequency diversity limitations, antenna characteristics, minimum system loading, frequency band channel allocations, minimum path length requirements, frequency planning and coordination criteria, bandwidth limitations, power limitations and automatic transmit power control. Furthermore, text of these specific and comprehensive proposed rule changes is submitted for public evaluation.

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[59] See ANS Petition at 4.

V. ADOPTING THE NPRM WOULD BE ARBITRARY AND CAPRICIOUS

In the NPRM, the Commission proposes relocating 2 GHz fixed microwave users without proposing necessary rules for their operation in the replacement bands above 3 GHz. Underlying this proposal is the OET Study, which relies upon questionable and unsupportable assumptions and studies. Based upon these unreliable data, OET concludes that 2 GHz is the only candidate band for emerging technologies and that displaced 2 GHz users could operate in the higher bands without specific rule amendments related to their particular bandwidth capacity, coordination, channelization, and other operating requirements.

Proposals in the NPRM for treatment of displaced 2 GHz users are too vague, making it highly unlikely that the Commission would receive cohesive comments on which to base its decision. With this shaky predicate, proceeding with the proposals in the NPRM could have a catastrophic impact upon fixed microwave users and their customers. Placing the ANS Petition on Public Notice helps matters considerably by filling the gap left in the NPRM regarding how 2 GHz users would operate in the bands above 3 GHz. Nevertheless, the Commission's obligations do not end with making the ANS Petition available for public review.

Given its lack of specific rule proposals for displaced 2 GHz users and its lack of a solid foundation for the reallocation to accommodate emerging technologies, adoption of the NPRM, without full evaluation of ANS' proposals, would be arbitrary and capricious under the Administrative Procedure Act ("APA") and subject to reversal. Thus, the NPRM and the ANS Petition must be treated together.

Pursuant to Section 10(e) of the APA, agency action must be set aside if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[60] To make this determination, a court will review whether the agency's decision is a reasonable exercise of its discretion, based upon consideration of relevant factors and upon the record.[61]

This scope of judicial review is not unlimited, however:

> The scope of review under this standard is a narrow one: We are not to substitute our judgment for that of the Commission in making policy choices as to how to carry out its statutory mission. While our standard of judicial review is highly deferential, it may not be uncritical. Under the APA, an agency's discretion is not boundless, and we must satisfy ourselves that the agency examined the relevant data and articulated a satisfactory explanation for its action based upon the record. We must find agency action to be in violation of the APA if the agency has "failed to consider an important aspect of the problem" or has "offered an explanation for its decision that runs counter to the evidence before the agency."[62]

In proceeding with the NPRM, the Commission risks engaging in arbitrary and capricious rule making. First, if it adopts the NPRM without fully integrating the record developed regarding the ANS Petition, it will be rule making based upon incomplete information. Second, if it adopts the NPRM based upon the conclusions made in the OET Study regarding fixed microwave operation in bands above 3 GHz, it will be rule making

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[60] 5 U.S.C. Section 706(2)(A) (1992).

[61] Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto Ins. Co., 463 U.S. 29, 43-44, 103 S.Ct. 2856, 2866-67 (1983) [hereinafter "State Farm"].

[62] People of State of Cal. v. F.C.C., 905 F.2d 1217, 1230 (9th Cir. 1990) (citing State Farm, 463 U.S. at 43).

based upon flawed assumptions. Neither cornerstone would pass muster under the APA. Accordingly, the Commission must not act on the NPRM until it acts upon the ANS Petition.

1. The record supporting reallocation of the 2 GHz band and migrating fixed microwave users is incomplete.

It is well settled that the Commission has a "duty to consider representative alternatives to its chosen policy and to give a reasoned explanation for its rejection of such alternatives."[63] Failure by an agency, like the Commission, to consider all elements in promulgating rules breaches its responsibility for exercising expertise in a reasoned manner.[64] Thus, it would be "arbitrary and capricious if the [Commission] ... entirely failed to consider an important aspect" of a rulemaking.[65]

Advocating reallocation of the 2 GHz band and migrating incumbent users to other bands, without full consideration of how these displaced users would operate, would be such an arbitrary and capricious failure to consider an important aspect of the reallocation issue. As the Court of Appeals previously admonished the Commission, the opportunity under the APA to comment on a proceeding, like the NPRM, is "meaningless unless [the Commission] responds to significant points raised by the public."[66] Thus, to avoid

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[63] City of Brookings Municipal Telephone Company v. F.C.C., 822 F.2d 1153, 1169 (D.C. Cir. 1987) (citing Farmers Union Central Exchange, Inc. v. FERC, 734 F.2d 1486, 1511 (D.C. Cir.), cert. denied, 469 U.S. 1034 (1984) (footnote omitted)).

[64] City of Brookings, 822 F.2d at 1169 n.46.

[65] State Farm, 463 U.S. at 43.

[66] Home Box Office, Inc. v. F.C.C., 567 F.2d 9, 35-36 (D.C. Cir.), cert. denied, 434 U.S. 829 (1977).

regulating in an arbitrary and capricious manner, the Commission must develop and then respond to the integrally related record on the ANS Petition before it acts on the NPRM.

2. The record supporting reallocation of the 2 GHz band and migrating fixed microwave users is based upon flawed assumptions and studies.

As demonstrated in Section III.B.2., supra, the OET Study is incomplete and unreliable. Reliance by the Commission on the OET Study to support the proposed reallocation thus would be folly. It also would be arbitrary and capricious.

The Commission, under the APA, must demonstrate that there is a "rational connection between the facts found and the choice made."[67] To be rational, the facts or assumptions underlying the choice made must be supportable by "correspond[ing] to the real world."[68]

In particular, the Commission is required to

> sufficiently explain the assumptions and methodology used in preparing the model; it must provide a "complete analytic defense of its model [and] respond to each objection with a reasoned presentation." The technical complexity of the analysis does not relieve the agency of the burden to consider all relevant factors and to identify the stepping stones to its final decision. There must be a rational connection between the factual inputs, modeling assumptions, modeling results and conclusions drawn from these results.[69]

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[67] Burlington Truck Lines v. United States, 371 U.S. 156, 168 (1962) (emphasis added).

[68] Natural Res. Defense Council v. Herrington, 768 F.2d 1355, 1422 (D.C. Cir. 1985).

[69] Sierra Club v. Costle, 657 F.2d 298, 333 (D.C. Cir. 1981) (quoting American Gas Ass'n. v. FPC, 567 F.2d 1016, 1037-1039 (D.C. Cir. 1977) (footnotes omitted)).

Otherwise, the court will be unable to "gauge with any confidence what effect" the underlying assumptions would have on the proposal.[70] Thus, if the Commission proceeds with adopting the reallocation proposed in the NPRM, based upon the flawed results of the OET Study, it would be "committ[ing] a clear error of judgment" and would be acting in an arbitrary and capricious manner.[71]

CONCLUSION

The Commission's NPRM is too simplistic to achieve a successful reallocation for emerging technologies. It fails to confront critical issues related to how orphaned 2 GHz users would operate in the bands above 3 GHz. Without these rules, investment in and development of fixed microwave technologies and equipment will stall, relocation costs will inflate, and spectrum congestion will result.

Full public consideration of such rules must parallel evaluation of the reallocation proposed by the Commission in the NPRM. In its Petition, ANS privatizes the Commission's obligation to propose these rules. With this impetus, the Commission has started fulfilling its responsibility to serve the public interest by promptly placing the ANS Petition on Public Notice. Nevertheless, it still would be arbitrary and capricious for the Commission to adopt

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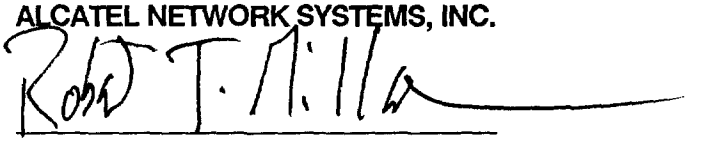
[70] Natural Res. Defense Council, 768 F.2d at 1422.

[71] St. James Hospital v. Heckler, 760 F.2d 1460, 1468 (7th Cir.), cert. denied, 474 U.S. 902 (1985). See also Humana of Aurora, Inc. v. Heckler, 753 F.2d 1579, 1583 (10th Cir.), cert. denied, 474 U.S. 863 (1985) ("When an agency adopts a regulation based on a study ... which is limited and criticized by its authors on points essential to the use sought to be made of it, the administrative action is arbitrary and capricious and a clear error in judgment."); Menorah Medical Center v. Heckler, 768 F.2d 292, 295 (8th Cir. 1985); People of State of Cal. v. F.C.C., 905 F.2d at 1238-39.

the NPRM before the record on the ANS Petition is completed, evaluated, and reported to the public.

Respectfully submitted,

ALCATEL NETWORK SYSTEMS, INC.



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